

RIC 2005

Session G1 -- Materials Issues



Proactive Management Of Materials Issues

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Topics of Discussion

- Current regulatory program for materials degradation is sufficient to protect public health and safety. However, improvements are needed in several areas
- Promising developments in materials degradation management
- Proactive degradation management—forward looking



Current Regulatory Program

- Program has been overly reactive to operational events
- The requirements are prescriptive
- Heavy reliance on licensee performance in inspection, assessment, and repair of flaws
- NRC is deeply involved in licensee implementation
- Long term approach not yet defined in key areas



Promising Developments

- Industry moves toward elimination of alloy 600 components
- NRC and industry progress toward a better understanding of degradation phenomena
- Improved methods and guidelines for inspection and evaluation of flaws
- Favorable results of recent inspections related to PWSCC and boric acid corrosion

Proactive Management of Materials Issues



- Industry needs to have a greater level of independence in defining and implementing materials management programs
- More proactive approach to materials degradation management
- To move in that direction, NRC needs to see significant progress in the following key areas

Proactive Management of Materials Issues



- Continue to eliminate susceptible materials
- Identify new degradation mechanisms through research and operational experience review
- Industry to increase willingness to characterize flaws prior to repairs
- Improve inspection and evaluation methods

Proactive Management of Materials Issues



- Implement industry guidelines for inspection and evaluation
- Establish a regulatory structure that integrates with industry guidelines thereby assuring effective and timely NRC oversight
- Institute a broad, balanced NRC inspection and oversight process to verify the effectiveness of industry efforts